

SOLAR POWER- APPLICATIONS-WORLDWIDE FOCUS

V. Lakshmi, R.V.LABS, Guntur, Andhra Pradesh, India

Solar power is the most ecofriendly benefit of mankind and also help in saving expenses or money. Homeowners are increasingly looking to solar power to make their homes more efficient. Solar electricity is definitely the choice of future by energy analysts throughout the world, especially if we keep any eye over other power generation sources fuels, gas etc. and their rising prices all the time like the majority of energy produced in the U.S. by coal, oil and natural gas, solar power is *renewable* and *nonpolluting energy source*.

What we have all witness since our childhood is solar power calculator or wrist watch but now thankfully things have moved way on. Solar power gadgets or huge solar power arrays are seen producing massive amount of electricity for domestic and commercial areas. Solar power usage is not constant throughout the world. Developed countries more obviously have larger solar power consumption than developing countries. For instance Abingdon Solar launched commercial solar plant in Seville Spain, it produces 20Megwatts of electricity. Solar Applications can be divided into three categories for understanding them better. Solar applications are available in sectors like Residential, Commercial, Industrial and Agriculture.

Additionally, it can provide personal and national energy security as it eliminates or cuts down your energy bills and reduces U.S. dependence on imported fuels. Harnessing solar power to light and heat your home isn't just a matter of installing a few solar panels on the roof--it can mean upgrading your hot-water heating system or applying green building design principles to new homes or remodel.

We are destroying our resources by abundantly using them and a day will come where world wars will occur for these resources. As they are two sides of a coin there is also advantage and disadvantage of solar power. Some advantages are:

1. Our mother earth is about 149.63×10^6 kilometers away from the sun, and light takes about 8 minutes and 31 seconds to reach to the surface of the earth. Light from the sun travels 186,262 miles per second to reach to earth. Energy emitted from the sun which reaches earth is in massive amount and if we use it to maximum levels it is not going to go anywhere until next five billion years.
2. Solar power panels are durable and do not require much maintenance, once in while cleaning of solar cell modules will be it. Average life time of solar power panels are up to 20 to 25 years, which justify the initial cost of solar panel.
3. Solar power systems are very friendly to environment and do not pollute it in anyway, they do not have any by product only electricity is produced. When solar electricity is used in place of energy generated by fossil fuels for meeting needs like lightening homes, office buildings, pumping of water etc.
4. It will reduce amount of carbon-monoxide, greenhouse gasses and other pollution emitted into air. The more electricity from solar panels is used the more it is benefited for environment to reduce impurities from our atmosphere.
5. Solar electric system can be useful in employment throughout the world. It has already benefited US economy by producing jobs in US solar electricity companies.
6. Solar energy plants are available for both small scale energy requirements and for larger scale energy requirements; it cops the market for both residential and industrial requirements.



7. Solar energy can be easily provided in rural areas where conventional electricity is not present already or it may cost more to setup electric grid station. It is cost effective to use solar energy generation methodologies in such rural areas
8. Solar power plants can also be connected to existing source of power generation to form hybrid system to boost energy requirements during sunny, hot and dry day.

Solar energy applications: solar energy is been in use in industry and provides multiple industrial applications, especially when power is required in remote locations. Solar power can be useful in such industrial applications where small kilowatt energy is required.

Some examples of remote location solar powered applications

- TV Station, Radio broadcasting towers, repeater stations, radio telephones etc. Solar power also facilitated electricity in transportation signaling system.
- In Japan, there are cities which are totally equipped with solar power traffic signal systems and does not require conventional electricity to operate. Other transportation system includes navigation systems, light houses in oceans, runway lights on airports, security camera in dark etc



9. Other industrial applications where solar power is used are environmental, situation equipment and protection systems for well heads, bridges pipelines etc. Such applications where electricity load is high, solar power can prove cost effective by configure hybrid electric power systems, that joints photovoltaic solar power system with small generators that operates on fuel or natural gas.
10. Solar power is highly reliable and can work on locations where conventional electricity is not reachable. Space is one of the examples for it. Satellites are powered by solar power from the day first when first satellite was launched in spaceSolar car is another most sophisticated application of solar energy. PV is installed on the surface of the car which converts sun light into electricity to power up a car. Such cars are not yet available for use in market, but they are bound to come for launch commercially very soon in future

Despite praise as a clean and inexhaustible source of energy, solar electric power isn't a perfect fit for every project. When considering a solar-powered home, builders and homeowners must determine if the project can accommodate the financial, practical and climatic requirements of a solar energy system. If you learn about the pros and cons of installing a solar energy system, you can decide if solar is the right type of "green" energy for your home.



Disadvantages of solar power:

1. The major disadvantage of using solar power is high cost for the equipment. In Florida Solar Energy Center, the high cost of solar panels and related equipment is the primary disadvantage to a solar powered home . However, local and national governments often provide tax breaks to individuals who install solar electric systems. Despite tax breaks, solar panels, mounting hardware, electrical components and installation might cost tens of thousands of dollars for the average consumer. Importantly, if a solar electric system reduces or eliminates monthly utility bills, the system eventually pays for itself.
2. Climate, environment and location can limit or enhance the viability of a solar energy system. Solar energy systems depend upon access to the sun's energy. Therefore, disadvantageous locations for solar energy systems include areas that receive intermittent light, heavy shade or sun blockage from natural features. Alternatively, homes located in areas that receive regular, consistent sunlight generally benefit from the installation of solar energy systems.

Solar technology has changed very rapidly in last decay, number of disadvantages of solar electric systems almost faded away. Especially cost factor has dropped a lot in recent times, thanks to government bodies and Green Technology movement

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